

** - || - **

Basics of PANCHANGAM

By
S. Narasimha Rao

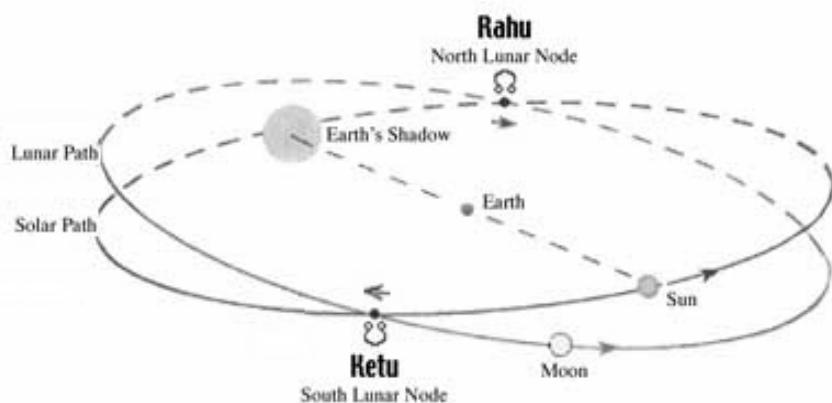


SHRI VIJAYADHWAJA JNANAPEETA (Regd.)
Shri Pejavara Mutt

Reprint from Achara Vichara Monthly

Price : Rs.10/-

Rahu and Kethu:



Author:

S. Narasimha Rao,
Chartered Engineer,
Consultant - Quality Systems in Educational Institutions,
23, Perumal Koil Street, West Mambalam, Chennai 600 033.
Phone: 91 44 2485 1192, Email: snrao@qualitysystems.co.in

BASICS OF PANCHANGAM

Benefits from use of Panchangam

Thithyeshcha Shreeyamapnothi Vaaraath Aayushyavardhanam

Nakshathraath Harathepaapam Yogaath Roganivaranaam

Karanaath Karyasiddhishchaath Panchangam dashamephalam

Knowledge of Thithi bestows Wealth, Knowledge of Vaara increases Longevity, Knowledge of Nakshatra erases Sins, Knowledge of Yoga cures Diseases and Knowledge of Karana ensures Success in work

Panchangam

All instances of time have five characteristics viz. Vaara, Thithi, Nakshatra, Yoga and Karana. These five characteristics are detailed for all the days of the year in an almanac which is called Panchangam. (Pancha + anga). These characteristics are derived from the positions of Sun and Moon. Panchangam is used for knowing these five basic characteristics of time for sankalpa, locating dates of vratas, locating dates of shraddhas and for finding suitable dates for auspicious functions.

Positions Sun, Moon and other planets are also given in the Panchangams. These are used for fixing Muhurthas and preparation of horoscopes and predictions by Astrologers.

Planets (Grahas)

Panchangams consider 7 planets and 2 shadowy planets. They are:

Sl. Planets / Shadowy Planets	Antharyami Roopa
1. Surya or Ravi – Sun	Rama
2. Soma or Chandra - Moon	Krishna
3. Kuja or Mangala - Mars	Narasimha
4. Budha or Soumya – Mercury	Bouddha
5. Guru or Brihaspati - Jupiter	Vamana
6. Shukra or Bhargava – Venus	Parashurama
7. Shani or Manda -Saturn	Kurma
1. Shadowy Planet: Rahu or Thama - Dragon's head	Varaha
2. Shadowy Planet: Kethu or Sikhi - Dragon's Tail.	Mathsyaa

Thus, from Sun to Saturn are planets and Rahu and Kethu are imaginary planets. They are actually the nodes (points) of intersection of the imaginary paths of Sun and Moon (as visualised by an observer on Earth), located at diametrically opposite points. Rahu and Kethu (Dragons' head and tail) are also known as shadowy planets.

In the Indian system of Astronomy, Sun is considered a planet even though it is the source of light and heat unlike in the western system, where by definition, planets are not the source of light and heat.

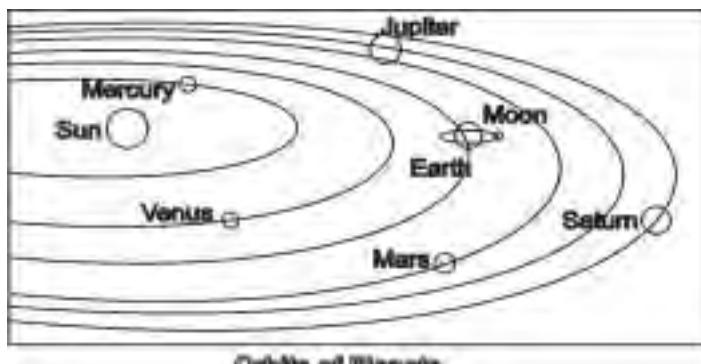
Time taken by the Planets to move in the Orbit

The Indian Astrological concept of Sun moving round the Earth and all planets referred around the Earth is called **Geo-centric** model. This conceptualisation is needed to understand the fundamentals of Panchangam thoroughly. The modern concept of Earth and all other planets are moving around the Sun is called **Helio-centric** model.

All the planets (except the shadow planets) move forward. Rahu and Kethu move backward. Direction of movement is with reference to the tracking of planetary positions depicted in the form of a horoscope (two dimensional) on paper. Forward movement is clock-wise and backward movement is anti clock-wise. Backward movement is also known as **Vakra or Retrogression**.

The Earth moves around the Sun completing one full revolution in 365.256374 days. [Earth rotates around its axis. For one such rotation (causing day and night) it takes 23 hours and 56 minutes. This will cause an observer on Earth to see Sun as rising in the East and setting in the West.] Moon completes one revolution around the Earth in 27.32966 days. Duration of other planets for one revolution around the Sun is: Budha 87.969 days, Shukra 224.7 days, Bhuma 686.98 days, Guru 4332.585 days, Shani 10759.22 days. Shani is the slowest of the planets and has acquired the name **Manda** (very slow) and **Sthira** (permanent).

Rahu and Kethu move backwards at the rate of one revolution in 6793.394774 days.



Positions of Planets

Picture depicting the paths of all planets show that each planet is at a different distance from the Sun and each is having its own orbit. The orbits or paths are elliptical say oval for simplicity. By observing the above picture, the possibility of different planets during their movement, lying scattered around the Earth can be visualised. For the purpose of Panchangam, the angular positions of all planets with Earth as centre are calculated for each day. Each planet's angular speeds vary from day to day. The angular posi-

tions are expressed in Degrees, Minutes and Seconds. Degrees are also expressed as Rashis and Bhagas (each Rashi being equal to 30 degrees, each Bhaga being equal to one degree). These calculations are complex.

Two main systems of Calculations

Surya Siddhantha and Drigganitha are two main systems of calculation used in Panchangam.

Surya Siddhantha

Surya Siddhantha system is used to calculate the movement of Sun and Moon only. Most of the Panchangam requirements are met with these. This system has been in use for preparation of Panchangam for use in all shastraic activities. (There is no connection between Souramana and Surya Siddhantha.)

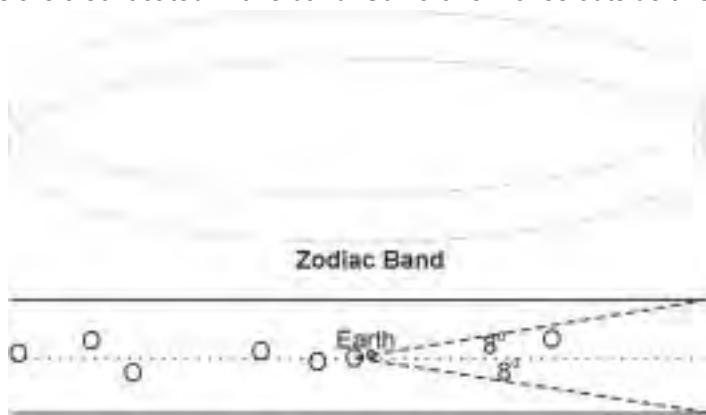
Drigganitha

Drigganitha system gives accurate results. This is a finer system of calculations as a number of minute corrections (or refinements) called Samskaras is done over and above the basic calculations to arrive at the results. This is used for calculating the movement of all planets (including Sun and Moon). Astrologers use these results for casting of horoscopes, predictions and fixing of muhurthas. The planetary movements reported in Panchangam is based on Drigganitha.

Zodiac

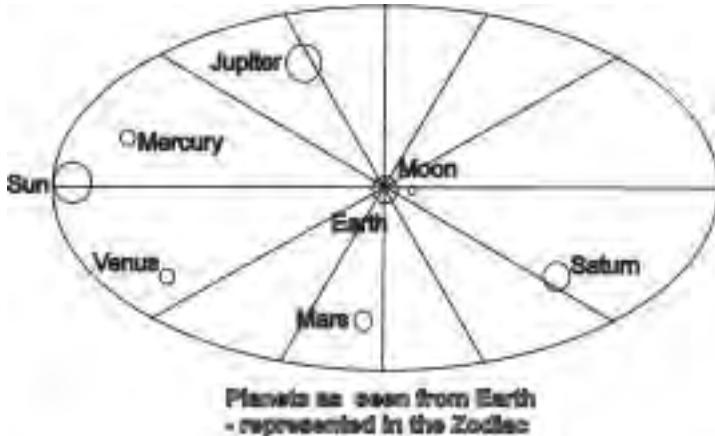
As viewed from the Earth, all planets (except Sun) are located within a spread of 8° to north of Equator and 8° to south of Equator - totally within 16° spread. All planets will not be in the same level. The level is defined as Patha or Declination in the astronomical language. The patha keeps changing from day to day.

The paths of all planets can be visualised as a huge elliptical band with a spread of 160° around the Earth. This band is called Zodiac. Nakshatra madalas are also located in this band. Sun alone moves outside this band.



Rashi and Zodiac

Zodiac is elliptical and Earth is located at its centre. If this is depicted on a paper (ignoring the angular width of zodiac), planets can be depicted within this ellipse at different angular positions. For convenience, the zodiac has been divided into twelve equal (angular) parts and each is called a Rashi or signs of zodiac. Each part is named after the constellation lying in the area.



The 12 Rashis within the Zodiac are:

Sl Rashi	English Name	Symbol	Sl Rashi	English Name	Symbol		
1	Mesha	Aries	Ram	7	Thula	Libra	Man holding a Balance
2	Vrushabha	Taurus	Bull	8	Vruschika	Scorpio	Scorpion
3	Mithuna	Gemini	Woman-Man Pair ¹	9	Dhanus	Sagittarius	Man holding a bow ³
4	Karkataka	Cancer	Crab	10	Makara	Capricorn	Deer faced Crocodile
5	Simha	Leo	Lion	11	Kumbha	Aquarius	Water Bearer
6	Kanya	Virgo	Virgin in a boat ²	12	Meena	Pisces	Two Fishes

1. Mithuna - Woman is holding a Veena, Man is holding Gadha(Mace)

2. Kanya - Virgin in the boat is holding fire and plants

3. Dhanus - Feet of the man holding bow resembles horse's feet

Planetary position in the zodiac

The 360 degrees of the zodiac is divided into 12 parts of 30 degrees each. Each part is called a Rashi or sign. A degree is also called Bhaga (also an Amsa). Each Bhaga is divided into 60 kalas (minutes), each kala into 60 vikalas (seconds) and each vikaala into 60 tarparas (one sixtieth of a second). Planetary positions are represented in a kundali.

Kundali / Horoscope

Kundali is a pictorial representation of the planetary positions at a particular time. Kundali is a square grid of 16 squares (4 rows of 4 columns) and the central 4 are ignored. The second square from the left in the top row is called the first rashi and the count is clockwise.

Horoscope is also a pictorial representation of the planetary positions at a particular time **and place**. An entry called **Lagna or Ascendant** is added into the kundali to denote the place based on the Earth's rotation on its own axis. Horoscope (Jathaka) and Kundali are colloquially used interchangeably.

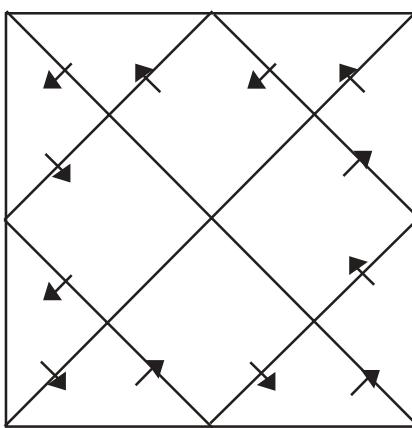
Horoscope generally has two kundalis; one called **Rashi** which indicates the planetary positions and the second called **Navamsha** (meaning ninth part) – in short Amsha indicating the finer positions of planet in a particular method the astrologers can make use of. To make this clear, the space in the centre is used to indicate what the kundali is representing.

The square grid pattern, with a clockwise arrangement of the houses as shown below is the common representation of kundali in South India.

Meena 12	Mesha 1	Vrusha- bha 2	Mithuna 3
Kumbha 11			Karka taka 4
Makara 10			Simha 5
Dhanus 9	Vrush- chika 8	Thula 7	Kanya 6

**South Indian style
of Representation**

In the rest of India, the pattern shown below is in common use and it appears, there is more than one variety of numbering the houses within that system, based on the region of use. In this, the houses are represented anti clockwise.



Two systems of dates

Souramana and Chandramana are two systems of dates which are in use.

Sankramana (Sankranti)

The point of time when the sun leaves one sign of zodiac (or House / Rashi) and enters another is called Sankranti or Sankramana. In other words, Sankramana is said to occur everytime sun enters a rashi. This event is a milestone for Souramana (measure based on Sun). Sankranti marks the beginning of a Soura month.

Vakya Sankramana

Sages have declared in one sentence (Vakya) the specific time duration between all the Sankramanas (between Mesha and Vrushabha, Vrushabha and Mithuna, etc.) in a year. Sankramanas determined based on this vakya (sentence) is called Vakya sankramana.

Surya Siddhantha and Drigganitha sankramanas are determined based on the calculations of the movement of Sun.

Why different Sankramanas?

Sankramana being a point of time can occur at any part of the day. This occurrence during evening / night times makes it difficult to observe the prescribed rituals, say tharpana. One explanation given is that at least one of the three sankramanas viz. Vakya, Surya Siddhantha, Drigganitha may occur at a convenient time and that could be followed instead of having extreme difficulties / non observance due to extreme difficulties.

Soura Masa (Solar Month)

The period between two successive sankrantis, or the time taken by the sun to pass completely through one sign of the zodiac is called a Soura masa or Solar month. A sankranti on which a solar month commences takes its name from the sign-name of that month. The Mesha Sankranti marks vernal equinox, the moment of the sun's passing the first point of Aries (Mesha).

Not to Scale

Vrushabha Sankramana

Mesha Sankramana																																	
Soura Dates	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2
Soura Masa																																	

There are 12 solar months in a year. The soura months have the same names as that of Rashis. They also have Tamil equivalent names. They are tabulated under the Length of months.

Length of Months

Since the apparent motion of the sun and moon is not always the same, the lengths of the lunar and solar months vary. The names and durations of each of the solar months in all the three systems are tabulated below. It will be observed that the length of months are different in the three systems, but the length of the year is the same.

Serial	Name of Month	Duration of each Month									
		Surya Siddhantha			Drigganitha			Vakya ²			
		Days	Ghati	Vighatis	Days	Ghati	Vighatis	Days	Ghati	Vighatis	
1	Mesh	Chittirai	30	21	36	30	21	23	30	55	32
2	Vrishabha	Vaikasi	30	36	22	30	52	21	31	9	12
3	Mithuna	Aani	31	45	23	31	16	41	31	51	38
4	Karkataka	Aadi	32	38	49	31	27	22	31	28	12
5	Simha	Avani	31	28	22	31	21	12	31	2	10
6	Kanya	Purattasi	31	0	53	30	59	52	30	27	22
7	Thula	Aipasi	30	26	8	30	29	57	29	54	7
8	Vrischika	Kartigai	29	53	12	29	59	21	29	30	24
9	Dhanus	Margali	28	29	24	29	36	24	29	20	53
10	Makara	Tai	29	18	57	29	26	41	29	27	16
11	Kumbha	Masi	29	26	59	29	32	14	29	48	24
12	Meena	Panguni	29	49	30	29	52	6	30	20	21
Total		365	15	35	365	15	34	365	15	31	

1. Sanskrit / Kannada / Malayalam names are same as that of Rashi. In Orissa, Bengal, Punjab & Haryana Chandramana names Vaishakha, Jyeshta, . . . , Chaitra are used.

2. Duration of each month in the Vakya system is constant

The average (mean) length in days of solar and lunar months, and of a lunar year as per the Surya Siddhantha and Modern Science is as follows:-

	Surya Siddhantha	Modern Science
Solar month (1/12 of a sidereal year)	30.438229707	30.438030
Lunar month	29.530587946	29.530588
Lunar year (12 months)	354.367055350	354.367056

Souramana dates [Solar Dates]

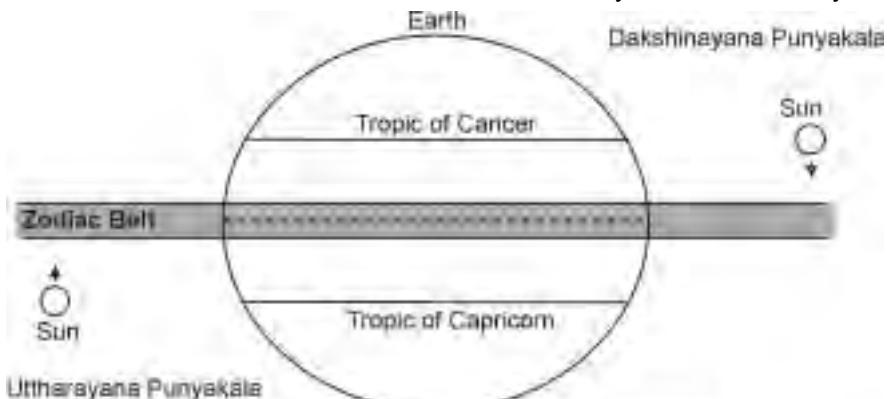
The souramana dates are counted serially from 1 beginning with a Sankramana day till the next sankramana (similar to the English calendar dates) which marks the beginning of the succeeding soura masa.

There are different schools of thought for reckoning the month beginning date: (a). If the sankramana occurs at any time upto 45 ghati the same day is considered the beginning day of the month and if it occurs after 45 ghati the next day is considered the beginning day of the month, (b). always the next day to the sankramana day, (c). follow one of the above two (a or b) but with reference to Vakya Sankramana etc..

Dakshinayana and Uttarayana Punya kaalas

The Karkataka Sankranti, three solar months after Mesha sankranti is

called Dakshinayana Punya kaala. The Sun will be directly over Tropic of Cancer ($23\frac{1}{2}$ degree "N" Latitude) at this time. [Tropic of Cancer passes through India at Ahmedabad, Bhopal, Durgapur etc.] Sun starts its southward movement from this moment. This will normally be on 16th of July.



Sun's Positions at Dakshinayana & Uttharayana

Not to Scale - Earth has been shown exaggerated.

The Makara Sankranti, 6 solar months after Karkataka sankranti, is called Uttharayana Punya kaala. The Sun will be directly over Tropic of Capricorn ($23\frac{1}{2}$ degree "S" Latitude - it passes through Australia) at this time. Sun starts its northward movement from this moment. This will normally be on 14th of January.

Around the Dakshinayana Punyakaala, 21st of June is called the **Summer Solstice** meaning the longest day (maximum dinamana). Around the Uttharayana Punyakaala, 22nd of December is called the **Winter Solstice** meaning the shortest day (minimum dinamana). Between the two dates 21st of March is called **Vernal (Spring) Equinox** and 23rd of September is known as **Autumnal Equinox**. On these two dates daytime will equal night time [dinamana will be equal to rathrimana]. All this is applicable to Earth's Northern Hemisphere (where India is located).

Ayana

One year consists of two ayanas. Each ayana is spread over six soura masas. Each ayana signifies the sun's direction. Thus during Dakshinayana, Sun is moving south and during the Uttarayana, Sun is moving North. Ayana can also be understood as passage of Sun to the North and South of the equator.

Karkataka Sankramana marks the beginning of Dakshinayana and Makara Sankramana marks the beginning of Uttarayana.

[Some say: Dakshinayana and Uttharayanas are now commencing on June 21 and December 22 and not on the days of karkataka / Makara Sankramana. Further, the beginning day of Ayana is moving backwards by about 1day for every 72 years.]

Around June 21 and December 22, Karkayana and Makarayana occur.

These are sankramanas as per Sayana reckoning. As the current value of Ayanamsha is about $22\frac{1}{2}^{\circ}$, sayana sankramanas are occurring about 23 days earlier than the nirayana ones. With increasing value of ayanamsha, sayana sankramanas will move backwards by about a day every 70 years. (Details about Ayanamsha and Nirayana/Sayana are given later).

Other Punya Kaalas

Vishuvath Punya kaalas: Mesha and Thula Sankramanas

Vishnupada Punya kaalas: Vrushabha, Simha, Vrushchika and Kumbha Sankramanas.

Shadashiti Punya kaalas: Mithuna, Kanya, Dhanus and Meena Sankramanas.

Punya kaalas / Parva kaalas Varjya

Generally, no auspicious events are to be celebrated during 16 ghatis before the Punya kaala and 16 ghatis thereafter (1 ghati = 24 minutes), roughly $6\frac{1}{2}$ hours on either side. Punya kaalas are also referred as Parva kaalas.

However, for the Dakshinayana / Uttarayana and Vishuvath Punya kaalas, "Pakshini" should be observed.

Pakshini means, two nights and a day or two days and a night depending on whether the Punya kaala occurs during day or night (middle of the Pakshini period). Entire Pakshini should be avoided for auspicious events.

Chandramana Masas (Lunar Months)

The period of time between two successive Amavasyas or Pournamis is a Chandramana masa. It is the time of the moon's synodic revolution. There are two ways of reckoning a Chandramana Masa. Krishna month [Amantha masas] ends with the moment of Amavasya's end. Sukla month [Pournamantha masas] ends with the moment of Pournami's end. Amantha masas are used in Gujarat, Maharashtra, Karnataka, Kerala, Tamil Nadu and Bengal, while Pournimantha masas are used in the rest of India.

End of Amavasya															End of Amavasya																			
Thithis:	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	1	2	3	4	5	6	7	8	9	10	11	12	13	14	30	1	2	
Paksha:																																		
Shukla																																		
Chandramana Masa - Amantha Masa																																		

End of Pournami															End of Pournami																					
Thithis:	15	1	2	3	4	5	6	7	8	9	10	11	12	13	14	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	1	2			
Paksha:																																				
Krishna																																				
Chandramana Masa - Pournimantha Masa																																				

For most of the Religious feasts / Shastraic rituals (in all parts of India) Chandramana masa/thithi/nakshatra/yoga have been prescribed. However, for a few of the observances Souramana masa/thithi/nakshatra have been prescribed.

For the common man's date referrals Chandramana dates (Samvatsara - masa - paksha - thithi) are used. In Tamil Nadu, Kerala, Bengal, Orissa,

Punjab , Haryana and the Thulu speaking persons use Souramana dates (Samvatsara - masa - date).

North India's Bai(Vai)shakha 1st will be South India's Chaitra Bahula Prathama (due to the Pournimantha/Amantha difference). [North India celebrates Baishakha 1st as the beginning of New year]

Chandra masas derive their name based on the nakshatra occurring during the Pournami thithi of the month. There are 12 lunar months. The months with the respective nakshatras and Abhimani Devathas are:

Sl.	Masa	Nakshatra on Pournami	Abhimani Devatha
1	Chaitra	Chitra	Vishnu
2	Vaishakha	Vishakha	Madhusudhana
3	Jyeshta	Jyeshta	Thriwikrama
4	Aashada	Poorva/Uttarashada	Vamana
5	Shravana	Shravana	Shreedhara
6	Bhadrapada	Poorva/Uttarabhadra	Hrusheekesha
7	Aashwayuja	Ashwini	Padmanabha
8	Karthika	Kruttika	Damodara
9	Marghashira	Mrugashira	Keshava
10	Pushya	Pushya	Narayana
11	Magha	Makha	Madhava
12	Phalguna	Pubba/Uttara (Poorva/Uttaraphalguni)	Govinda
13	Adhika Masa		Purushotthama

Paksha

A paksha is the moon's fortnight. The fortnight during which the moon is waxing is called Shukla or Shuddha. This begins with the end of Amavasya and lasts upto the end of Pournami. The fortnight during which the moon is waning is called Krishna or Bahula. This lasts from the end of Pournami to end of Amavasya. Each chandramana masa consists of both the pakshas (halves), Shukla paksha (Bright half) and Krishna Paksha (Dark half).

Thithi

The moment of new moon, or that point of time when the longitudes of the sun and the moon are equal is called Amavasya (means dwelling together of the sun and the moon). A thithi is the time occupied by the moon in increasing its distance from the sun by 12 degrees. In other words, at the exact point of time when the moon moving eastwards from the sun after the Amavasya, leaves the sun behind by 12° degrees, the first thithi, Pratipath (Prathama) ends, 24° for the end of Dvitheeya, 36° for Thritheeya, . . 180° for Pournami, 192° for Krishna Prathama, 204° for Dvitheeya, . . 360° for Amavasya. One complete synodic revolution of the moon occupies 30 thithis for the 360 degrees. Since the motions of the sun and the moon are always

Thithi's	Ghati	Pala	Vipala	Hours	Minutes	Seconds
Greatest length	65	16	0	26	6	24
Mean length or Average	59	3	40.23	23	37	28.092
Least length	53	56	0	21	34	24

varying in speed, the length of a thithi constantly alters. The variations in the length of a thithi are tabulated above (60 ghatis = 24 hours).

Each paksha consists of 15 thithis. Thithis with their Abhimani Devathas are:

SI Thithi	Abhimani Devatha	SI Thithi	Abhimani Devatha
1 Prathama (Prathipath or Padya)	Agni	10 Dashami	Adi Sesha
2 Dwitheeya (Bidge)	Brahma	11 Ekadashi	Dharma
3 Thrutheeya (Thadige)	Gouri	12 Dwadashi	Hari
4 Chathurthy (Chouthi)	Vinayaka	13 Thrayodashi	Kama
5 Panchami	Sarpa	14 Chathurdashi	Kali
6 Shashti	Skanda	15 Pournami (Poornima) [Shukla]	Chandra
7 Sapthami	Ravi	30 Amavasya	Paksha]
8 Ashtami	Sadhyojath	[Krishna Paksha]	Pithru Devatha
9 Navami	Durga		

A day in Panchangam

The time duration from one sun rise to the next sun rise is reckoned as a day in Panchangam. This duration is considered equal to 60 ghatis (24 hours). However, as the sun rise time varies from day to day by a small measure, the duration of the day also varies to that extent.

Thithi's Beginning/End point

As the time duration of thithi varies from day to day, thithi's Beginning/End points occur at different times of the day. Generally one thithi begins on a day and ends on the next day which means on each day one thithi ends and at the same time the next thithi begins. However, as the time duration of thithis can vary from 59 ghatis to 65 ghatis, on some days (day as per panchangam); (a). the same thithi will have its Beginning as well as End point which means such days will have two Beginning/End points of thithis (b). thithi will not have its end point which means such days will have no Beginning/End point of thithis.

Days with two Beginning/End points of thithis and No Beginning/End points of thithis are taboo for auspicious functions.

Day's Thithi

The thithi ruling at the time of sun rise of the day is reckoned as the thithi of the day for all date referrals. During sankalpa thithi, nakshathra, yoga, karana ruling at the sun rise of the day is used.

Thithi classified into Five groups

Group	Thithis	Phala
Nanda	Prathama, Shashti, Ekadashi	Ananda
Bhadra	Dwitheeya, Sapthami, Dwadashi	Arogya - Mangala
Jaya	Thrutheeya, Ashtami, Thrayodashi	Jaya (victory)
Riktha	Chathurthy, Navami, Chathurdashi	Nashta (loss)
Poorna	Panchami, Dashami, Pournami/Amavasya	Sampoorna

Two Types of thithis

Those extending for 60 ghatis from sun rise are called **Poorna thithis** and others **Sakhanda thithis**.

Varieties of Sakhanda thithis

Shuddha and **Viddha** are the two varieties. Thithis present at both sun rise and sunset of the same day (and on days like Shivarathris extending upto midnight) are called **Shuddha** while others (not present at both sun rise and sunset) are referred to as **Viddha**.

Viddha means one with vedha ie., One attached to another. Thithis with End / Beginning point located between the sun rise and sunset of the same day are said to have; (a) **Poorva Viddha** with the ending thithi (b) **Para Viddha** with the beginning thithi.

Vedhas of thithis

Thithis starting from about 6 ghatis after Suryodaya are said to have **Pratharvedha** with the previous thithi extending upto 6 ghatis from sun rise.

Thithis starting from about 6 ghatis before Sunset are said to have **Sayamvedha** with the previous thithi extending upto 6 ghatis before sunset.

Adhika and Kshaya Thithis

A thithi starting before the day's sun rise and ending after the next day's sun rise is called **Adhika thithi**. During the time duration of an Adhika thithi, two sun rises will occur. On both days, the same day is used for date referrals. Here the thithi has sustained an increase (**Vridhhi**).

Such a thithi is also referred to as **Thridinasprukh** as it has touched three days (1. day before sun rise, 2. Day of Sun rise and 3. Day of second sun rise).

Within the Adhika thithi, the portion after the second sun rise is referred to as **Puccha** meaning tail.

A thithi starting after the day's sun rise and ending before the next day's sun rise is called **Kshaya thithi**. During the time duration of a Kshaya thithi, no sun rise will occur. This thithi will not get into the realm of date referral. Here the thithi has suffered a diminution (**Kshaya** or **Hrasa**).

Such a Kshaya thithi is also called **Avamaha**. This thithi is referred with a prefix **Upari**.

Refer to graphics on the next page.

Twelve lunar months are equal to 354/355 days, but there are 360 thithis during that time. As though, to make this equation alright, on an average there are 7 Adhika thithis and 13 Kshaya thithis in a year.

Adhika and Kshaya thithis are also taboo for auspicious functions.

Ekadashi and Viddha Dashami

Vaishnavas have to observe Ekadashi vratha on Ekadashi without Dashami vedha is the rule. That means, by the time of Arunodaya on the Ekadashi day, the previous thithi Dashami should have ended. [Eventhough, Arunodaya is the last portion of a day, in some places it is used as the first portion of the day - Viddha Dashami is one such example.]

If the Dashami thithi ends during the Arunodaya of any day, (example day 1: has Ekadashi at the time of Sunrise and Ekadashi will be the date referral) that day will be considered Viddha Dashami (Goddu Dashami) and treated as a Dashami for all practical purposes, and the following day (ex

	Mid Night	Sun Rise	Sun Set	Mid Night	Sun Rise	Sun Set	Mid Night	Sun Rise
Julian Date – Mid Night to Mid Night		2 nd January 2005			3 rd January 2005			
Julian Day – Mid Night to Mid Night		Sunday			Monday			
Solar / Week Day / Savana Day - Sun Rise to Sun Rise	Sunday		Sunday		Savana Day			
Dina Mana – Sun Rise to Sun Set	Dina Mana				Dina Mana			
Rathri Mana – Sun Set to Sun Rise		Rathri Mana			Rathri Mana			
Thithi - Example at random	Sapthami				Poorna Thithi			
Poorna Thithi – extending for 60 ghati from Sun Rise					Shuddha Thithi			
Shuddha Thithi - present at both Sun Rise & Sun Set of the same day					Pravartha			
Viddha Thithi – not present at both Sun rise & Sun Set of the same day						Sayamvedha		
Pravartha – from about 6 ghati after Sun Rise								
Sayamvedha – from about 6 ghati before Sun Set								
Poorva/Para viddha – thithis have End / Beginning point during dinamana								
Poorvaviddha – attached with the previous thithi	Shashti		Sapthami					
				Sapthami is attached to Shashti				
Paraviddha – attached with the next thithi			Sapthami			Astami		
				Sapthami is attached to Ashtami				
Adhika Thithi			Adhika Thithi					
I Thridinasprukh – has 2 Sun Rises								
Puccha – Overhang after 2nd Sun rise								
Kshaya Thithi			Kshaya Thithi					
/ Upari/Avamaha - has No Sun Rise								
Ekadashi	Dashami		Ekadashi			Dwadashi		
			Ekadashi Vratha					
Viddha Dashami	Dashami		Ekadashi			Dwadashi		
			Viddha Dashami			Ekadashi Vratha		
Alpa Ekadashi	Dashami		Ekadashi			Dwadashi		
						Ekadashi Vratha		
	Mid Night	Arunodaya	Sun Rise	Sun Set	Mid Night	Arunodaya	Sun Rise	Sun Set

ample day 2) will be observed as Ekadashi Vratha (even if that day's thithi is Dwadashi). In such situations, Dwadashi vratha will be observed on the following day (example day 3).

Arunodaya is a period of 4 ghatis just before sunrise, i.e., period starting from 56 ghatis after the previous sunrise. Therefore for the purpose of Viddha Dashami, the Dashami's duration during the day has to be less than 55 ghatis and 45 vighatis.

Aryamana Panchanga: It appears, long ago Aryamana panchanga was in use. In the background of the rule that Aryamana calculations have to be used for Ekadashi, Shri Vidhyadheesha Theertha (period: 1619 to 1631 AD) has given a formula for converting the Surya Siddhantha calculations to Aryamana as a short cut to detailed Aryamana calculations. In most of the panchangas calculated using Surya Siddhantha, the above conversion formula is being used.

Driganitha Panchanga: Shri Vidyamanya Theertha (period 1969 to 2000 AD), the head of Phalimaru matha prescribed that Driganitha calculations can as well be used for Ekadashi instead of converting Surya Siddhantha calculations to Aryamana, as the Driganitha calculations are in any case being used for grahanas, muhurthas and other astrological aspects. Some vaishnavas (mainly from the Udupi region) are using Driganitha panchanga.

Ekadashi on two days: As the latitude and longitude vary from place to place, the sun rise time varies from place to place. Therefore, some times the above calculation results in Ekadashi for a set of places on say day 1 and Ekadashi for another set of places on day 2. This kind of a variation takes place on a maximum of 3 occasions in a year (minimum 0) for India. In such cases, some religious heads adopt a policy of uniformly observing Ekadashi on the second day keeping in view the dictum "For any reason Ekadashi fasting can be observed on a Dwadashi day and never on a Dashami day".

Ghati - Vighati

Unit of measure for time used in Panchangams is Ghatis (Ghalige) - Vighatis (Vighalige, Pala). They are known as Naligai and Vinaligai in Tamil. One day of 24 hours consists of 60 ghatis, each ghati has 60 vighatis. (1 ghati = 24 minutes).

Muhurtha is also a unit of measure of time and is equal to 2 ghatis ($2 \times 24 = 48$ minutes).

Time shown in Panchangams

In Panchangams, the time shown in ghatis-vighatis is the **Time counted from Sun rise**. These are shown as "Prathama 23-18, Ashwini 58-6," etc. This indicates Prathama thithi ends at 23 ghatis and 18 vighatis from sun rise. Similarly the Nakshatra Ashwini at 58 Ghatis and 6 vighatis from sun rise.

Upari (Kshaya Thithi)

A Upari thithi has no sun rise. These Upari cases are reported in Panchangam with the exception: the ghatis - vighatis mentioned are the duration from the end point of the previous thithi and **not from sun rise**. Similar is the case with Nakshatra / Yoga in case of Upari.

Example: Panchangam of Day 2

Panchangam day is from Sun rise to Sun rise (not from 12 midnight)

Refer to adjacent picturisation

Day 1 Bhanu, Ekadashi 5-21 {8-39 am},

Day 2 Indu, Dwadashi 0-34 {6-45 am}

Upari Thrayodashi 54-49 {4-41 am},

Day 3 Bhouma, Chathurdashi 49-33 {2-21 am},

Day 2: Thrayodashi does not witness a sun rise.

By looking at sun rise points of Day 2 and Day 3, we feel one thithi got skipped.

Adhika

Day 1 Bhanu, Prathama 55-59 {4-54 am},

Day 2 Indu, Dwitheeya 60-00 {6-31 am},

Day 3 Bhouma, Dwitheeya 1-20 {7-03 am},

Dwitheeya has touched the sun rise of both Day 2 and Day 3. Dwitheeya is Pccha on Day 3.

	Upari	Adhika	
Sun Rise	08-39		06-31
Day 1			
Sun Rise		04-54	06-31
Day 2	Dwadashi		
Sun Rise	06-45		
Day 3	Thrayodashi	Dwitheeya	
Sun Rise	04-41	07-03	06-31
		Thruetheeya	

Karana

A Karana is half a thithi, or each thithi is divided into two equal parts, each being a Karana known by a specific name. There are 11 Karanas. They are listed with their Abhimani Devathas below:

Sl Karana	Abhimani Devatha	Sl Karana	Abhimani Devatha
1 Kimstugna	Shooli	7 Vanik	Shiva
2 Bhava	Sadhyojath	8 Bhadra	Parvathi Pathi
3 Balava	Vamadeva	9 Shakuni	Virupaksha
4 Kaulava	Aghora	10 Chathushpada	Neelakanta
5 Theithula	Tathpurusha	11 Nagava	Umapathi
6 Garaja	Ishaana		

Four of them appear once in a Chandramana masa on specific thithis only. They are: (Sl.1) Kimstugna - 1st half of Shukla Prathama, (Sl.9) Shakuni - 2nd half of Krishna Chathurdashi, (Sl.10) Chathushpada - 1st half of

Amavasya and (Sl.11) Nagava - 2nd half of Amavasya.

The remaining seven karanas (Sl. 2) **Bhava** to (Sl. 8) **Bhadra** follow the cyclic order from 2nd half of Shukla Prathama to 1st half of Krishna Chathurdashi, each karana appearing 8 times in a month.

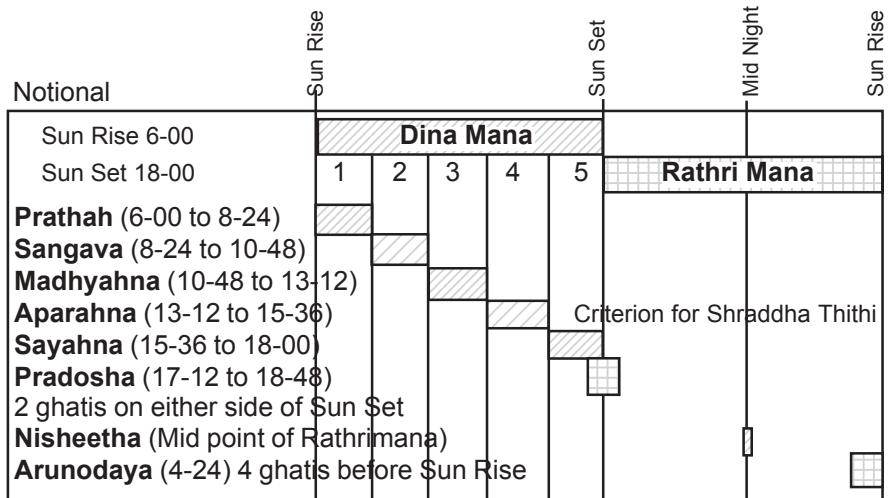
Terminology for different time slots of the Day

Dinamana

Day times's duration (from sun rise to sunset) is called Dinamana. This is also referred as **Ahahpramaṇa** or **Ahahs**. The mid point of the dinamana will be the **midday** local noon (12 noon local time **not IST**). Dinamana varies from day to day even in the same place.

Each place has a different latitude and longitude, causing different sunrise and sunset times. Consequently, Local noon itself is different from place to place depending on the latitude and longitude of the place.

Rathri mana is the time from sunset to the next sun rise.



Sometimes, three equal time slots called **Prathah**, **Madhyahna** and **Aparahna** is also used.

	1	2	3	
Prathah (6-00 to 10-00)				
Madhyahna (10-00 to 14-00)				
Sayahna (14-00 to 18-00)				Not to Scale

Dinamana is commonly divided into five equal time slots called **Prathah**, **Sangava**, **Madhyahna**, **Aparahna** and **Sayahna** in the same order from sunrise. The Aparahna referred as the one fifth part of Dinamana is also referred as Shraddha Aparahna to make it specific. Further, it is used for all Shraddha related nirnavas.

Pradosha is a period of 4 ghatis spread from 2 ghatis before sunset (end of dinamana) to 2 ghatis after sunset (48 minutes before and 48 minutes after

sunset)

Nisheetha is the mid point of Rathri mana.

Arunodaya is the period of 2 muhurthas (4 ghatis) before sun rise.

Rule for Vratas: For each of the Vratas a specific rule quoting one or many of the above nomenclatures is prescribed. However, for the purpose of vratas, each vrata has a specific rule to be followed. The rule generally specifies: thithi, nakshatra, yoga or a combination present at specific times of a solar day or week-day. Nirnaya sindhu /Dharma Sindhu are the authoritative work in general use as the guiding principle for determining the day/date of various vratas/ events. Whenever nothing is specified, thithi, nakshathra, yoga ruling at sun rise is used.

Shraddha Thithi

For the purpose of shraddha, the thithi ruling at shraddha aparahna has to be considered. The guiding principles in deciding Shraddha Thithi are:

1. If one thithi alone is present during the entire Shraddha Aparahna, that thithi is the day's Shraddha thithi.
2. On some days, one thithi ends and another begins during shraddha aparahna. In such cases:
 - 2 a. Of the two thithis during shraddha aparahna, whichever is present for longer time is the day's Shraddha thithi.
 - 2 b. If the same thithi is present during shraddha aparahna of two successive days, the day on which its duration during shraddha aparahna is greater of the two, will become the Shraddha thithi.
 - 2 c. Sometimes, the duration of the two thithis during the shraddha aparahna will be greater than that during the previous / next days' shraddha aparahna. In such cases, this day will have two Shraddha Thithis.
 - 2 d. Sometimes, the duration of the two thithis during the shraddha aparahna will be lesser than that during the previous / next days' shraddha aparahna. In such cases, this day will have no Shraddha Thithi referred as **Shoonya**.

Example: Day 1		Day 2			Day 3		
Thithi:	Shashti	Sapthami			Ashtami		
Shraddha Thithi	Shashti			Sapthami			Ashtami

Thithis are totally present during shraddha aparahna. Hence they are Shraddha Thithis.

Thithi: Shashti		Sapthami		Ashtami		Navami	
Shraddha Thithi	Shashti			Sapthami, Ashtami			Navami

Sapthami thithi is present during shraddha aparahna only on Day 2. Ashtami thithi is present more during Day 2's shraddha aparahna than that of Day 3. Thus Day 2 has Sapthami and Ashtami as Shraddha Thithis.

Thithi:		Sapthami		Ashtami			
Shraddha Thithi	Sapthami			Shoonya			Ashtami

Sapthami thithi is present more during shraddha aparahna of Day 1 than that of Day 2. Ashtami thithi is present more during shraddha aparahna of Day 3 than that of Day 2. Therefore Day 2 has no Shraddha Thithi and is referred as Shoonya Thithi.

In the above graphics, Shraddha Aparahna period has been shown large in comparison for the day to make the point clear. *Graphics are Not to Scale*

Yoga

Yoga is a benefic state that is said to exist at any instance of time. There are 27 yogas. The yogas with their Abhimani Devathas are:

Sl	Yoga	Abhimani Devatha	Sl	Yoga	Abhimani Devatha
1	Vishkambha	Vishwa Deva	15	Vajra	Indra
2	Preethi	Maruth	16	Siddhi	Hiranya
3	Aayushman	Hiranyagarbha	17	Vyathipatha	Vishwa Deva
4	Soubhagya	Durga	18	Variyan	Vayu
5	Shobhana	Prithvi	19	Parigha	Pavamanasoma
6	Athiganda	Adhithi	20	Shiva	Prithvi
7	Sukarman	Surya	21	Siddha	Indra
8	Dhruthi	Raajni	22	Sadhyा	Vishwa Deva
9	Shoola	Indra	23	Shubha	Maruth
10	Ganda	Maruth	24	Shukla	Indra
11	Vruddhi	Maruth	25	Brahma	Brahma
12	Dhruba	Pragni	26	Aindra	Indra
13	Vyaghatha	Agni	27	Vydhruhi	Agni
14	Harshana	Hari			

Yoga at any instance of time is best explained by the method of calculation. Yoga is determined by the sum total of the positions of Sun and Moon.

Each yoga is represented by $13^\circ 20'$ degrees (A circle of 360 degrees divided by 27 units gives $13^\circ 20'$ per unit). Therefore, the sum total of the positions of Moon and Sun is counted in intervals $13^\circ 20'$ degrees to arrive at the Yoga. [Whenever the total exceeds 360° , 360° is subtracted from the total for the calculation purpose. example: Sun 270° + Moon 200° = 470° - 360° = 110°]

Some of the Yogas are said to be Not-so-benefic ones. They are: Vishkambha, Athiganda, Shoola, Ganda, Vyaghatha, Vajra, Vyathipatha, Parigha and Vydhruhi.

Many Panchangams report Amrutha, Siddha and Marana as Yogas. The word Yoga has been used in these Panchangams to mean phalas (benefits) due to the combination of week day and Nakshatra and has nothing to do with the Yoga described here.

Constellation / Nakshatra

The 27th part of the ecliptic is called a Constellation or Nakshatra. Each constellation / nakshatra occupies $360^\circ/27 = 13^\circ 20'$ of the ecliptic or zodiac. The word Nakshatra/Star is used as though it is a separate object.

There are 27 nakshatras and are listed with their Abhimani Devathas in the following table.

The nakshatra of the day (group of stars) is said to be located at the 12 O' clock position in the sky at midnight.

Constellations						
SI	Name	Constellation		Abhimani	Devatha	Thyajya ¹
1	Ashwini	3 stars resembling a horse's face		Ashwini	Devatha	50
2	Bharani	3 stars resembling a pot		Yama		24
3	Krittika	6 stars resembling a razor		Agni		30
4	Rohini	5 stars resembling a chariot		Prajapathi		40
5	Mrigasira	3 stars resembling a head of a deer		Soma		14
6	Aridra	1 star resembling a bead		Rudra		21
7	Punarvasu	5 stars resembling a bow		Adhithi		30
8	Pushya	3 stars resembling a flower		Brihaspathi		21
9	Aslesha	6 stars resembling a serpent		Sarpa		32
10	Makha	5 stars resembling a palanquin		Pithru		30
11	Pubba (Poorva Phalguni)	4 stars resembling the legs of a cot		Aryama		20
12	Uttara (Uttara Phalguni)			Bhaga		18
13	Hasta	5 stars resembling a palm		Savithu		21
14	Chitra (Chitta)	1 star resembling a pearl		Twashtru		20
15	Swati	1 star resembling a sapphire		Vaayu		14
16	Vishakha	3 stars resembling a potter's wheel		Indragni		14
17	Anuradha	3 stars resembling an umbrella		Mitra		10
18	Jyeshta			Indra		14
19	Moola	6 stars resembling a crouching lion		Niruthi		10, 56
20	Purvashadha	4 stars resembling a square		Abdevatha		24
21	Uttarashadha			Vishwa Deva		20
22	Sravana	3 stars resembling an arrow		Vishnu		10
23	Dhanishta	4 stars resembling a drum		Vasu		10
24	Shatabhisra (Shatathara)	100 stars resembling a flower		Varuna		18
25	Purvabhadra	4 stars resembling the legs of a cot		Ajaaiakapaath		16
26	Uttarabhadra			Ahirbudhnya		24
27	Revati	3 stars resembling a fish		Poosha		30

1. Nakshatra Thyaja is described later

Nakshatra (Star) – Moon's location

The position of moon in the zodiac (counted in intervals of $13^{\circ}20'$) is indicated by the name of the constellation / nakshatra it occupies. The time which the moon (whose motion continuously varies in speed) requires to travel over the 27th part of the ecliptic is also called the duration of the nakshatra. The length of the moon's travel through nakshatra is –

	Ghati	Pala	Vipala	Hours	Minutes	Seconds
Greatest	66	21	0	26	32	24
Mean	60	42	53.4	24	17	9.36
Least	55	56	0	22	22	24

Pada (Charana)

Each Nakshatra is divided into four equal parts and each of them is called

a Pada or Charana. Padas do not have any specific names and are referred as the 1st, 2nd, 3rd and 4th pada of the concerned Nakshatra. It appears that the padas have been conceived to make relation of each Nakshatra with Rashi simple. There are 27 nakshatras to be related to 12 rashis. By considering 27 nakshatras as 108 padas, 9 padas account for 1 rashi.

The 3rd and 4th padas of Uttarashada and the 1st and 2nd padas of Shravana are also referred as **Abhijit** Nakshatra.

Nakshatra Rashi Chart

The chart indicates the angular positions of all Nakshatras and Rashis. It also indicates the Nakshatra – Rashi relationship.

One revolution of any planet covers all the 12 Rashis **or** all the 27 Nakshatras **or** all the 108 padas ($27 \times 4 = 108$). Therefore, any position of a



planet during its revolution can also be expressed as a Nakshatra and its pada.

Nakshatra Thyajya

Each Nakshatra has a specific period ranging from 3 ghatis and 45 vighatis to 4 ghatis and 30 vighatis (maximum of 1 Hour and 48 minutes) of not so good period. The start point of this period has been shown as Rathri ghati-vighati or Dina ghati-vighati or Paradina ghati-vighati against each day. Paradina is also referred as Sesha (remainder). This is of use in fixing Muhurthas.

Planets' Position and Movement description

Normally details of one paksha are given in one page of Panchangam. The page also contains a kundali indicating the positions of planets as at the beginning or end of the paksha. Some panchangams also give the details of planets' positions in Rashi-Bhaga-Pala-Vipala to supplement the kundali.

Significant movement of planets is indicated in Panchangam along with Dina Visheshas by recording the time when each of the planets enters a Rashi / Nakshatra / Pada. Whenever an entry into a Rashi is indicated, Rashi's name alone or Rashi's and the Nakshatra's names are mentioned. For example, Meshe Ravi or Aswini Prathame Ravi 24-17 says Ravi is entering Mesha rashi or Aswini 1st pada at 24 ghatis and 17 vighatis after sun rise of the day. Rashi praveshas are also indicated in the middle of the kundali.

Rain bearing Nakshatras

Sun during his movement, occupies each of the nakshatras for an average period of 13.5 days. During these days, the respective nakshatra is said to be the rain bearing nakshatra.

Adhika Masa (Chandramana Masa with No Sankramana)

Normally one sankramana occurs in every Chandramana masa. However, once in about two and a half years, no sankramana occurs in any one chandramana masa of the year. Such a chandramana masa is reckoned as **Adhika masa** (extra month) and the immediate next month as **Nija masa** (normal month). Such years will have 13 Chandramana masas. The lunar month in which there is no sankranthi is called adhika masa.

Thithis:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	1	2	3	4	5	6	7	8	9	10	11	12	13	14	30

Normal Chandramana Masa - Masa has One sankramana

Thithis:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	1	2	3	4	5	6	7	8	9	10	11	12	13	14	30

Adhika Chandramana Masa - Masa has No sankramana

Thithis:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	1	2	3	4	5	6	7	8	9	10	11	12	13	14	30

Kshaya Chandramana Masa - Masa has Two sankramanas

Not to Scale

A simplistic explanation would be: A period of 12 lunar months (Chandramana Masas) falls short of the solar year by eleven days. To bring the lunar year as nearly as possible to the solar year a lunar month is added to the lunar year at certain intervals. Such a month is called an adhika or intercalated month. This addition of a masa follows the rule of a masa without sankramana.

Kshaya Masa (Chandramana Masa and 2 Sankramanas)

Whenever, two sankramanas occur in a chandramana masa, that masa is called a **Kshaya masa (suppressed month)**. This can occur in the months of Kartheeka, Pushya and Magha only. During such a kshaya masa, two successive months are reckoned as being together, the first half of each thithi (equal to a Karana) is considered to belong to the first of the two months and the second half of the thithi as that of the second month.

Such a year will thus consist of 11 chandramana masas. However, all such years will also have an adhikamasa, making it a 12 month year.

Kshaya masa will occur after 141 years of its occurrence. There is a possibility of its occurring after 19 years also.

Chandra Darshana

The first Chandra Darshana in each chandramana masa occurs during the Dwitheeya thithi day. Many times it is on Prathama thithi day, provided the Dwitheeya thithi has begun before sunset. The first **Chandra darshana** in each chandramana masa is a celebrating event as Chandra will be visible for a very short period of time and also very faintly (almost like a line).

Muslim Masa / Year and Chandramana

The Muslim year (Hijra / Phasli year) is based on chandramana. Each Muslim masa begins from the day next to the chandra darshana day. Normally this masa has a 2 day difference with the Chandramana Masa. As the feasts are based on the day of the masa, they are dependant on the Chandra darshana.

	End of Amavasya													End of Amavasya																			
Thithis:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	1	2	3	4	5	6	7	8	9	10	11	12	13	14	30	1	2	3
Chandra darshana to Chandra darshana																																	

Year has 12 masas. Concept of Adhika / Kshaya masas are not considered. Thus the year has 354/355 days and shifts backwards by 11 days with respect to English / Soura years. As compared to a chandramana year with an Adhika masa, it shifts backwards by one masa.

Just as in Soura masas, Dates are counted serially as 1, 2, 3, . . . List of masa are: 1. Muharram, 2. Saffar, 3. Rabbi-ul-avval (Jamadi-us-sani), 4. Rabbi-ul-akhar (Rabbi-us-sani), 5. Jamadi-ul-avval, 6. Jamadi-ul-akhar, 7. Rajab, 8. Shaban, 9. Ramzan, 10. Shawwal, 11. Jilkhayad and 12. Jelhaj.

Christian Feasts and Chandramana

Easter Sunday is the first Sunday after Summer equinox (March 21) and the following Pournami.

Ruthus (Seasons)

There are six ruthus. Each ruthu corresponds to two successive months. Even though the Souramana masa and Chandramana masa refer to different periods, the same ruthus are referred by both the systems. The ruthus are:

Ruthu	Chandramana Masas	Souramana Sanskrit / Kannada	Masas Tamil
Vasantha	Chaitra - Vaishakha	Meena - Mesha	Chittirai-Vaikasi
Greeshma	Jyeshta - Ashada	Vrishabha - Mithuna	Aani-Aadi
Varsha	Shravana - Bhadrapada	Kataka - Simha	Aavani-Purattasi
Sharath	Ashwayuja - Kartheeka	Kanya - Thula	Aipasi-Karthikai
Hemantha	Margashina - Pushya	Vruschika - Dhanus	Margali-Thai
Shishira	Magha - Phalguna	Makara - Kumbha	Masi-Panguni

Chandramana, Soura & English Months

Eventhough Chandramana Masa, Souramana Masa and English Months refer to different periods of time, the following table shows their proximity.

Chandramana	English	Souramana	English
Chaitra	March - April	Mesha	April - May
Vaisakha	April - May	Vrishabha	May – June
Jyeshta	May – June	Mithuna	June – July
Ashadha	June – July	Kataka	July – August
Sravana	July – August	Simha	August – September
Bhadrapada	August – September	Kanya	September – October
Aswayuja	September – October	Thula	October – November
Kartika	October – November	Vrischika	November – December
Margasira	November – December	Dhanus	December – January
Pushya	December – January	Makara	January - February
Magha	January - February	Kumbha	February – March
Phalguna	February – March	Meena	March - April

Hora and Vaara

Each day consists of 24 Horas counted from one sun rise to the next. Each hora is governed by a planetary lord. There are seven planetary lords who take turns in the order 1. Ravi (Bhanu), 2. Shukra, 3. Budha, 4. Soma, 5. Shani, 6. Guru, 7. Mangala (Bhouma).

Each day gets the name of the hora lord at the time of sun rise.

Horas of Sunday

1 Ravi	2 Shukra	3 Budha	4 Soma	5 Shani
6 Guru	7 Mangala	8 Ravi	9 Shukra	10 Budha
11 Soma	12 Shani	13 Guru	14 Mangala	15 Ravi

16 Shukra 17 Budha 18 Soma 19 Shani 20 Guru
 21 Mangala 22 Ravi 23 Shukra 24 Budha 25 Soma

For understanding, let us examine the hora lords of Sunday listed in the above table. The 25th hora lord happens to be Soma. This is the 1st hora of next day which is called Soma Vaara. Similarly it can be seen the first hora lords of successive days are in the order Ravi, Soma, Mangala, Budha, Guru, Shukra and Shani which are the seven week days or Vaaras.

Any seven consecutive days together is also called a Sapthaka or Sapthaha meaning a week. However in day to day practice the word Vaara is used to mean a week.

Weekdays			Planet (Hora lord at Sun rise)	Abhimani Devatha
Sanskrit / Kannada	Tamil	English		
Ravi (Adithya/Bhanu)	Gnayaru	Sunday	Soorya (Sun)	Hara
Indu (Soma)	Thingal	Monday	Chandra (Moon)	Durga
Bhouma (Mangala)	Chevay	Tuesday	Bhouma (Mars)	Brihaspathi
Soumya (Budha)	Budhan	Wednesday	Soumya (Mercury)	Vishnu
Guru (Bruhaspathi)	Vyazhan	Thursday	Guru (Jupiter)	Brahma
Bharga (Shukra)	Velli	Friday	Shukra (Venus)	Lakshmi
Manda (Sthira/Shani)	Shani	Saturday	Shani (Saturn)	Kubera

Ayanamsha

Ayanamsha is in itself a very big subject. Ayanamsha is denoted in angular measurement. Its value is calculated while calculating Panchangam. This is currently about $22\frac{1}{2}^\circ$ and has been increasing at the rate of 54 seconds per year.

Earth rotates around an imaginary line through the earth from North pole to South pole. This imaginary line is inclined to the ecliptic (middle of the zodiac band). During the rotation, the Earth wobbles like a spinning top. The measure of this wobbling called precession is said to be Ayanamsha.

Some say that Ayanamsha is the angle of inclination of earth's axis to the ecliptic.

Nirayana / Sayana

Nirayana and Sayana are two systems of representation of planetary positions. Panchangams give planetary positions based on Nirayana system which is used in Hindu predictive astrology. **Nirayana** means excluding Ayanamsha and **Sayana** means including Ayanamsha.

Dinamana is derived from Sayana position of Sun.

Meshayana

Meshayana, Vrushabhyana, etc. are month beginnings. Meshayana corresponds to Mesha sankramana as per Sayana system. Similarly for the others viz., Vrushabhyana, Mithunayana, etc.

Samvathsara

The time duration from the beginning of Mesha masa to end of Meena

masa is called a Samvathsara. The time duration of 12 cycles of Shukla Prathama to Krishna Amavasya is called a Anuvathsara. Thus a Souramana varsha is called **Samvathsara** and Chandramana varsha is called **Anuvathsara**. However, as Samvathsaras alone have names, the word Samvathsara is used to denote an year in both the systems.

Time cycle of 60 years

Sixty samvathsaras is considered a time cycle (kaala chakra). There are 60 names for samvathsaras. These keep occurring in a cyclic order. The first year of the cycle Prabhava denotes the evolution of a new creative force which is believed to end in the last or 60th year after getting fully matured, when the New Year gives rise to a new force. In Vibhava the force is expanded, Shukla (denotes vitality and similarly the names are given for all the 60 years indicative of the function that the force is supposed to do, till the year Kshaya or destruction sets in which means that the force generated in Prabhava has been destroyed. The names of Samvatsaras are:

1. Prabhava	17. Subhanu (Swabhaanu)	32. Vilambi	47. Pramadi (Pramadeecha)
2. Vibhava	18. Thaarana	33. Vikaari	48. Aananda
3. Shukla	19. Paarthiva	34. Shaarvari	49. Raakshasa
4. Pramoda	20. Vyaya	35. Plava	50. Nala
5. Prajothpathhi (Prajapathi)	21. Sarvajith	36. Shubhakruth	51. Pingala (Paingala)
6. Aangeerasa	22. Sarvadhaari	37. Shobhakruth (Shobhana)	52. Kaalayukthi (Kaalayuktha)
7. Shrimukha	23. Virodhni	38. Krodhi	53. Siddharthi
8. Bhaava	24. Vikruthi	39. Vishvavasu	54. Roudra(i)
9. Yuva	25. Khara	40. Paraabhava	55. Durmathi
10. Dhaathu	26. Nandana	41. Plavanga	56. Dundubhi
11. Easwara	27. Vijaya	42. Keelaka	57. Rudirodgaaari
12. Bahudhanya	28. Jaya	43. Soumya	58. Rakthakshi
13. Pramaathi	29. Manmatha	44. Saadhaarana	59. Krodhana &
14. Vikrama	30. Durmukhi	45. Virodhikruth	60. Kshaya.
15. Vishu (Vrusha)	31. Hevilambi (Hemalambi)	46. Pareedhaavi	
16. Chitrabhaanu			

There are five varieties of Varshas (years).

Soura Varsha: Time taken by Sun to make one complete cycle from the beginning of Mesha. This is about 365 days 15 ghatis and 31 vighatis.

Chandra Varsha: Twelve Chandramana masas make a Chandra varsha. This would be 354/355 days. Thus, the year beginning shifts backwards by about 11 days each year with respect to the English year.

During years with Adhika masas it would be 384/385 days. During such years the year beginning moves forward by about 20 days with respect to the English year.

Savana Varsha: Time from one sun rise to the next sun rise is called a Savana day. 360 Savana days make a Savana varsha.

Nakshatra Varsha: Time taken by Moon to make one complete cycle from the beginning of Ashwini is referred as a Nakshatra masa and 12 such Nakshatra masas constitute a Nakshatra varsha. This would be 354/355 days.

Barhaspathya Varsha: The average time taken by Guru (Jupiter) to traverse one rashni is referred as Barhaspathya varsha. This is about 361.04875 days. However, if Guru's period of stay in each rashni itself is considered as a year, there will be wide variation from year to year. (Keeping these variations in view, some persons refer the period as about 13 months.)

Saka

Saka is a series of years named after some person or event. We are using **Shalivahana Saka**. Generally year in AD less 78 will gives the Saka year.

Grahanas (Eclipses)

Each year a minimum of two grahanas and a maximum of seven grahanas occur. All grahanas are not seen in all countries.

The process of Moon coming in-between Sun and Earth in case of Surya Grahana and Earth coming in-between Sun and Moon in case of Chandra Grahana is well known. Surya grahana can occur only on Amavasya days. At that moment Rahu/Kethu will be present in the same angular position as of Sun/Moon. Chandra grahana can occur only during Pournami days during which time Rahu/Kethu will be in the same angular position as Moon. At the time of grahana, Sun, Moon and Rahu/Kethu's patha (declination) will be same which means they are all in the same plane.

There are three types of Grahanas.

Poorna Grahana is one where the Sparsha and Moksha are visible.

Grasthodaya Grahana is one where the Sparsha is not visible and Moksha alone is visible.

Grasthastha Grahana is one where the Sparsha is visible and Moksha is not visible.

Choodamani Grahana: Surya Grahana on a Sunday and Chandra Grahana on a Monday is referred as Choodamani Grahana.

Mahapathas

Mahapathas are Parva kaalas. These are determined through complex calculations. The movement of Sun, Moon and rahu are considered in these calculations.

Vyathipatha Parva kaala and Vydhruithi Parva kaala are the Mahapathas.

Vyathipatha Parva kaala can occur during second half of Ganda Yoga, Vruddhi Yoga and first half of Dhruva yogas.

Vydhruithi Parva kaala can occur during Shukla and Brahma yogas.

These parvakaalas do not occur during Mithunayana, Karkayana (Karkatakayana), Dhanurayana and Makarayana months.

Anushtanas of each Mahapatha Parvakaala is said to give benefits equal

to that of 1 crore Surya Grahams. Suitable Anushtanas have to be made to obtain the benefits.

Mahapatha kaalas are also not suitable for shubha karyas.

Vakra (Backward movement) or Retrogression [Conjunctional Peculiarities]

Planets in the course of their journey in the zodiac are said to be obstructed by certain invisible forces called mandochcha, seegrochcha and patha, as a result of which they become stationary for a while (appear to be stationary), move anti clockwise, i.e., move backward or vakra (while their normal movement is clockwise) and again, after sometime, regain their natural course. This phenomenon of going backward is called Retrogression or Vakra.

Panchangams mention the date and time when Vakra starts (as **Vakra Aarambha**). The time and day when the backward movement stops is mentioned as **Vakra Thyaga** (end of vakra). The date and time when the original position from where backward movement started is reached is reported as **Vakra Rizvi**.

Astha and Udaya of Planets

Planets are always in motion according to their own paths. In this dynamic environment, at times some planets go behind Sun or close to the Sun (angular distance). Such planets are said to be in **Astha** or Asthamana (i.e., they have set – similar to sun setting) and when they come out, are said to be **Udaya** (similar to Suryodaya). During the Astha period, they are said to be powerless (astrologically) or have attained **combustion**, having handed over all their powers to the Sun.

Such Astha and Udaya are applicable to following planets when they are closer to Sun by specified angular distance: Guru 9°, Shukra 6°36', Budha 11°, Mangala 15° and Shani 13°.

Astha and / or Udaya of these planets may occur during their backward movement also. It is common to specify the direction of Udaya as East or West meaning Udaya during normal movement or during Vakra or backward movement.

Lagna

Lagna is the zodiac sign at the east horizon.

The Earth spins around an axis, completing one revolution in a day – causing day and night (indicating an apparent movement of Sun around the Earth) is represented as traversing once through the zodiac, i.e., covering the twelve rashis. The time spent in each rashi is referred as the duration of lagna and the lagna is referred by the name of the rashi. At places on the equator, each day has 12 lagnas and thus each lagna will be of 2 hours (5 ghatis) duration . At the poles, there are only two lagnas per day and therefore each lagna will be of 30 ghatis. However, the duration of lagna varies from place to place depending on the latitude. The variation is quite large.

First lagna of the day and its duration is counted from the sun rise of the day.

During each soura masa, the first lagna of the day will be of the same rashi's name as that of the soura masa. Thus during Mesha masa, the day's first lagna will be Mesha lagna, during Vrushabha masa, it will be Vrushabha lagna, and so on. The second and subsequent lagnas of the day follow the order of the rashis.

As the Sun is moving from one rashi to the next, the first lagna duration will be of full duration at the beginning of the soura masa, on the second day the first lagna's duration reduces by 1/30, on the 16th day the first lagna's duration reduces to 15/30 and on the 30th day (last day) of the soura masa reduces to 1/30 duration (giving way to the next lagna). The second and subsequent lagnas will be of full duration.

Illustrative example of Lagna duration:

During the course of each soura masa, at the equator, the duration of each lagna is 2 hours or 120 minutes. Each soura masa can be considered as of 30 days.

The first lagna keeps reducing at the rate of 4 minutes per day, i.e., from 120 minutes on 1st day to 116 minutes on 2nd day, 112 minutes on 3rd day, . . . , 4 minutes on the last day of the month.

At the same place, 2nd, 3rd, . . . 12th lagnas will be of 120 minutes on all days of the masa.

From the second day of the masa onwards the last lagna of the day (just before the next sun rise) will have the same lagna as the first but with the balance duration. Thus on 2nd day it will be of 4 minutes, on the 3rd day 8 minutes, . . and 116 minutes on the last day.

Muhurthas – Lagnas

Muhurthas are time intervals chosen for auspicious events. These are chosen by the learned, considering various factors. These Muhurthas are given names like Mesha lagna, Vrushabha lagna etc.. Further, the time is also specified by astrologers. This time specified as muhurtha will be shorter than the lagna (discussed in earlier paragraph) based on Nakshatra thyajya, Lagna thyajya and other astrological factors.

Lagna Thyajya: One third of the lagna duration is thyajya, meaning to be discarded. It is the first one third in case of Mesha, Vrushabha, Kanya nad Dhanus lagnas, second one third in case of Mithuna, Simha, Thula and Kumbha lagnas, last one third in case of Karkataka, Vrushchika, Makara and Meena lagnas.

Pushkaramsha: Sometimes lagnas of one minute duration is chosen. This is practiced widely in North India. The best time within a lagna period is called Pushkaramsha.

Masa Thyajya: Some specified days in each of the soura masas is taboo for auspicious events.

Masa Thyajya Pushkaramsha			Masa Thyajya Pushkaramsha		
Rashi	Days	Ghati-Vighati	Rashi	Days	Ghati-Vighati
Mesha	6,15	3-01	Thula	6,20	3-59
Vrushabha	7,16,17	2-13	Vrushchika	1,10,17	1-06
Mithuna	1,6	4-12	Dhanus	6,9,11	3-35
Karkataka	2,10,20	1-05	Makara	1,2,3,11,17	2-06
Simha	2,16,18	3-23	Kumbha	15,16,17	3-01
Kanya	16,29	2-10	Meena	6,15,19	0-19

Variation on account of Longitude / Latitude

Time of occurrence of Sankramana, beginning/end of Thithi, Nakshatra, Yoga and Karana are universally same – it is the same moment at all places of the earth.

But, the time of sun rise varies from place to place based on the longitude and latitude of the place. Therefore Thithi, Nakshatra, Yoga and Karana as at the time of sun rise (which is the basis for the shastraic observations) differ from place to place. Normally panchangams give time in ghatis-vighatis from sun rise. This will be accurate to the place for which the panchangam has been prepared and may not hold good for other places. However, if the equivalent Indian Standard Time is (also) given, that will hold good across places. However for shastraic observations the variation in sun rise time may make some difference.

Soura year is equal to Julian Year

Soura varsha and Julien year are both of 365 1/4 days duration.

All sankramanas repeat after a year. It will be noticed that the time reported will be 15-35 ghatis-vighatis (6-14 Hrs-Mins) later than the previous year's and the week day will be one day later. For example: Mesha sankramana of this year is on say Monday at 10-25 g-v., i.e., 10-10 am (assumed sun rise 6.00 am). Mesha sankramana next year will be on a Tuesday at 26-00 g-v., i.e., 16-24 pm.

Diverse methods of Month reckoning

Different methods of reckoning a month are followed within one panchangam. They are 1. Amantha Masa – for day to day common usage, 2. Pournimantha Masa – prescribed for Vaishakha / Kartheeka / Magha snanas, 3. Soura Masa – prescribed for Thula / snana, Dhanur Pooja 4. Masa from Shukla Ekadashi to the succeeding Shukla Ekadashi – prescribed for Chathurmasa.

Festive Occasions / Vrathas

Panchangams report the various festivals, Vrathas, Aradhane (Punya Dina) of religious personalities, local festivals. Each of these has specific rules prescribing the thithi, nakshatra, yoga, vaara etc. The prescriptions are very exacting. Ekadashi, the fasting day has been additionally explained below.

Ekadashi: Ekadashi thithi is observed for fasting by smarthyas, while absence of viddha dashami is considered by vaishnavas.

Harivasara: The last quarter of Dashami and first quarter of Dwadashi thithi is also part of Ekadashi fasting. These periods are reported as Dashami Harivasara and Harivasara respectively. If Dashami harivasara is during night time, it is not reported. Dwadashi harivasara is reported only if it is in the morning.

Sadhane: After fasting on Ekadashi, meals has to be taken during the Dwadashi thithi is the rule. For the purpose, if the Dwadashi thithi is ending by about 8 am it is reported as Sadhane or **Alpa Dwadashi**.

Athiriktha Ekadashi: If Dwadashi (according to Aryamana) is extending for a period greater than 60 ghatis, that day is called Athiriktha Ekadashi and is a second fasting day. However, if Viddha Dashami also exists in the same period, there will be no Athiriktha Ekadashi as Dwadashi itself will be treated as a normal Ekadashi.

Shravana Dwadashi: The day with Shravana Nakshatra and Dwadashi thithi at noon time is called Shravana Dwadashi and is a fasting day. This can occur during Bhadrapada and Phalguni Krishna Pakshas only.

Usage of Panchangam

Panchangam is generally an annual publication covering one specific year. Details in a Panchangam is organised so as to facilitate easy reference and understanding. Calendar style is becoming popular.

Conventionally, each page of Panchangam will give detailed information of one paksha of a chandramana masa. All information in a columnar style, all information in aline, some information in columns and balance information in a line, are the different styles followed. The title portion of the page gives information of **Saka, Samvathsara, Ayana, Ruthu, Masa and Paksha** common to the whole page.

In the example of a Panchangam shown below, the first column of the page indicates the **English date** (Julian calendar date). For this date, the **Souramana date** (also called **Tamil date**) and **Dinamana** (Duration between Sun rise and Sunset) in Ghatis-Vighatis are given in the next two columns. Immediate next information is the **Vaara** or **Week day**. This arrangement is to facilitate reading with respect to either an English date or a Week day (The English date and the Week day are always in a sequence).

The next set of information given following Vaara is **Thithi** - ghatis, **Nakshatra** - ghatis, **Yoga** - ghatis, **Karana** - ghatis, **Nakshatra Thyajya** - ghatis, **Dina Visheshas** (Vratas / Festivals / Aradhane / Uthsavas), **Rashi / Nakshatra Praveshas** of Planets and **Shraddha Thithi**. Thithi, Nakshatra, Yoga and Karana **present at the time of sun rise** is reported in the Panchangam.

Ghatis-Vighatis shown against Thithi / Nakshatra / Yoga / Karana represent the duration in **number of ghatis and vighatis from sun rise**, in other words **end point** of Thithi / Nakshatra / Yoga / Karana. Immediately after the

ghatis-vighatis, the end point time in **IST** has also been given with am/pm indication.

In order to know the name of next Thithi beginning at the end point indicated, the immediate next day's line has to be read. Similarly reading has to be done for Nakshatra and Yoga.

Two or more Karanas can appear in a day as each thithi consists of 2 Karanas. The second and subsequent Karanas will have to be **worked out by the user**. #4

Various **Vratas** and other **Dina Visheshas** are listed against each date. Important planetary movements **Rashi/Nakshatra praveshas, Asthas/ Udayas** and Vakra (retrogression or backward movements) are also detailed alongwith Dina visheshas.

The planetary positions as on the first day or last day of the paksha is shown pictorially in a kundali found at the right bottom corner of each page. The positions of all planets shown in this kundali are calculated using **Driggaanitha** system of calculation. The planetary movements (Rashi / Nakshatra Praveshas of Planets) referred earlier are also based on Driggaanitha. Other information is normally of **Surya Siddhantha**.

An example Panchangam of 3 consecutive days from 31st December to 2nd January is given below for illustration.

**Shri Shalivahana Saka: 1921 Pramathi Samvathsara Kaliyear 5100
December 1999 & January 2000**

**Dakshinayana, Hemantha Ruthu, Margashira Masa, Krishna Paksha
Soura Masa: Margali, Masa Niyamaka: Keshava**

Julian Date	Soura Date	Dina mana	Week Day, Thithi, Nakshatra, Yoga, Karana, Nakshatra Thyajya, Dina Vishshas, Rashi/ Nakshatra praveshas of planets
31-Dec	16	28-28	Bharga, Navami 14-49 {12-27 pm}, Chitta 31-59 {7-19pm}, Athiganda 23-17 {3-50 pm}, Garaja 14-49 {12-27am}, Rathri 18-13 {1-12 am}, Thule Chandra 0-39 {6-47 am}, Dhanishta Chathurthe Bhouma 26-56 {5-17 pm}, Moola Thruthheeye Budha 23-15 {3-49 pm}, Anuradha Dwitheeye Shukra 31-35 {7-09 pm} [Dashami]
1-Jan	17	28-28	Manda, Dashami 16-59 {1-19 pm}, Swathi 35-44 {8-49 pm}, Sukarman 22-05 {3-21 pm}, Bhadra 16-59 {1-19 pm}, Rathri 22-12 {2-47 am}, Poorvashada Dwitheeye Ravi 35-49 {8-51pm} [Ekadashi]
2-Jan	18	28-28	Bhanu, Ekadashi 20-22 {2-40 pm}, Vishaka 40-41 {10-08 pm}, Dhrithi 21-49 {3-15 pm}, Balava 20-22 {2-40 pm}, Rathri 23-04 {3-08 am}, Sarvathra Ekaadashi, Vrishchike Chandra 24-27 {4-18 pm}, [Shoonya]

The title is self explanatory as each item has its own explanatory prefix or suffix.

If the **desired date** is 1st January, we locate it from the Julian date column. Having located it, the details for the day in the order of presentation of data are:

Julian Date	: 1 st January
Soura (Tamil) Date	: Margazhi 17
Dinamana #1	: 28 ghatis – 28 vighatis (11 hours and 23 minutes)
Week Day	: Manda Vaara (Saturday)
Thithi	: Dashami upto 1-19 pm #2
Nakshatra	: Swathi upto 8-49 pm #3
Yoga	: Sukarmam upto 3-21 pm
Karana	: Bhadra upto 1-19 pm #4
Nakshatra Thyajya	: Rathri 2-47 am #5
Dina Vishesh	: -
Rashi/Nakshatra	: Poorvashada Dwitheeyye Ravi 8-51 pm
Pravesha of Planets	means Ravi enters Poorvashada 2 nd pada at 8-51 pm
Shraddha Thithi	: Ekadashi

Note: #1. 1 day = 60 ghati, 1 ghati = 60 vighatis (1 ghati = 24 minutes, 1 vighati = 0.4 minutes, 1 hour = 2.5 ghati)

#2. Dashami started from 12-27 pm of previous day. Duration of Dashami is from 12-27 pm of previous day to 1-19 pm i.e., 24 hours 52 minutes. Ekaadashi starts at 1-19 pm and extends upto 2-40 pm of next day. The concept is applicable to Nakshatra and Yoga also.

#3. Nakshatra Swathi's total duration is (from 7-19 pm of previous day to 8-49 pm) 25 hours. Each pada of the Nakshatra has 6 hours and 15 minutes. 1st pada ends at 1-34 am, 2nd at 7-49 am, 3rd at 2-04 pm.

#4. Karana after 1-19 pm is Bhava. This is arrived from the knowledge of order of Karanas which is: **Bhava, Balava, Kaulava, Theithula, Garaja, Vanik, Bhadra** and again Bhava,....Bhadra. However, the four **Karanas Kimstugna, Shakuni, Chathushpada, and Nagava** appear once in a Chandramana masa on specific Thithis only and do not follow the cycle/order: Kimstugna – 1st half of Shukla Prathama, Shakuni – 2nd half of Krishna Chathurdashi, Chathushpada – 1st half of Amavasya and Nagava – 2nd half of Amavasya.

Karana Bhava ends at 1-51 am (arrived figure) which is midway of Ekaadashi thithi which ends at 2-40 pm of next day.

#5. Thyajya (To be left out) period is a 1 hour and 54 minutes from the indicated time. Para dina is sometimes mentioned against Nakshatra Thyajya instead of Dina or Rathri. Para dina means next day. Same is expressed as Sesha also.

#6. Among the Dina Visheshas, **Anadhyayana** indicates No new lessons to be studied, especially Veda. **Sopapada** is a defined thithi not suited for Shubha Muhurtha. **Shadashi Mukha** is a defined position of Sun also not suited for Shubha Muhurtha.

Sun rise time Corrections in Panchangam Usage

In general, the timings in IST (not local time) given for the end points of Thithi, Nakshatra, Yoga and Karana are universal. (If the IST timings are not given in any Panchangam, one has to calculate for the place of Panchangam and use it.)

Sun rise timings given in any Panchangam is calculated for the **longitude** and **latitude** of a chosen place. For using the same in other places, the timings have to be corrected using the time correction factor (at + or – 4 minutes per degree longitude – this is assuming, same or near about latitude in the required place) with respect to the place of the Panchangam. With the variation of Sun rise and Sunset time depending on the place, some vratas can be on two different (successive) days in different places.

Rahukaala / Gulika Kaala / Yamaganda Kaala etc

Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Rahu Kaala	16.30-18	7.30-9	15-16.30	12-13.30	13.30-15	10.30-12	9-10.30
Gulika Kaala	15-16.30	13.30-15	12-13.30	10.30-12	9-10.30	7.30-9	6-7.30
Yamaganda	12-13.30	10.30-12	9-10.30	7.30-9	6-7.30	15-16.30	13.30-15

The popularly known timings given above are indicative times for a notional sun rise at 6.00 am and a dinamana of 12 hours (notional sun set at 6.00 pm). Each time slot is equal to 1/8th of dinamana. Based on the actual sun rise and sun set time of the day, the Rahukaala / Gulika Kaala / Yamaganada kaala timings have to be suitably corrected. (Sun rise and sun set times are not same for all days of the year even in the same place).

Amrutha, Siddha & Marana as Yogas

In many Panchangams, the names Amrutha, Siddha & Marana are written under the column Yoga. They actually mean the phala (result) of the combination of the week day and the nakshatra of the day. The word Yoga is used to mean Phala as Yoga itself is different as already explained.

There are 28 different phalas named Ananda, Kaaladanda,...Varthamana. Each of them is referred as Yogas meaning Phalas. The Phalas (referred as Yogas) and their meaning is tabulated below. The same table also gives the meaning in a simpler way – as used in many Panchangams – using the three words Amrutha, Siddha and Marana. It would be noticed that Amrutha and Siddha stand for **Good** and Marana stands for **Not Good**.

In this table, the same phalas have been represented by an abbreviation P1, P2,...P28. Here “P” stands for “Phala”, the numerals “1 through 28” for 28 phalas and the + or – signs respectively for Good and Not so Good, making it P1+, P2-,...,P28+.

The phala referred above is obtained by a table of Weekday and Nakshatra combination shown below. This table has been given different headings such as “Anandadi Yogas”, “Muhurtha Raja”, “Yogas convenient for Travel” in different Panchangams.

As the table is a simplistic way of looking for simple muhurthas, the title

Muhurtha Raja is given. As the results are a series from Ananda, the title Anandadi Yogas is used. As the table is commonly used for travel purposes, the title Yogas convenient for Travel is used.

Usage of above Yogas convenient for Travel

From the Panchangam locate the Nakshatra for the required day and time. For that Nakshatra and the week day combination locate from the Anandadi Yogas table, the Phala. The phala has been given in code as P1+, P2 -, etc. in the table that follows. The code itself indicates whether it is a **good time or not so good** time by the (+) or (-) sign. For the actual meaning use the table giving meanings. If the Artha indicates positive meanings it means a good time.

The above method is a **thumb rule** method and an accurate method would involve examining the concerned person's correct horoscope vis a vis the required time – which are best done by experienced astrologers.

Muhurtha Raja or Anandadi Yogas or Yogas convenient for Travel

Nakshatra	Sun	Mon	Tue	Wed	Thu	Fri	Sat
AshwiniP1+	P5+	P9-	P13+	P17-	P21+	P25-	
BharaniP2-	P6-	P10-	P14+	P18-	P22-	P26-	
Krittika	P3-	P7+	P11+	P15-	P19+	P23-	P27+
Rohini	P4+	P8+	P12+	P16-	P20+	P24+	P28+
Mrigasira	P5+	P9-	P13+	P17-	P21+	P25-	P1+
Aridra	P6-	P10-	P14+	P18-	P22-	P26-	P2-
Punarvasu	P7+	P11+	P15-	P19+	P23-	P27+	P3-
Pushya	P8+	P12+	P16-	P20+	P24+	P28+	P4+
Aslesha	P9-	P13+	P17-	P21+	P25-	P1+	P5+
Makha	P10-	P14+	P18-	P22-	P26-	P2-	P6-
Pubba	P11+	P15-	P19+	P23-	P27+	P3-	P7+
Uttara	P12+	P16-	P20+	P24+	P28+	P4+	P8+
Hasta	P13+	P17-	P21+	P25-	P1+	P5+	P9-
Chitta	P14+	P18-	P22-	P26-	P2-	P6-	P10-
Swati	P15-	P19+	P23-	P27+	P3-	P7+	P11+
Vishakha	P16-	P20+	P24+	P28+	P4+	P8+	P12+
Anuradha	P17-	P21+	P25-	P1+	P5+	P9-	P13+
JyeshtaP18-	P22-	P26-	P2-	P6-	P10-	P14+	
Moola	P19+	P23-	P27+	P3-	P7+	P11+	P15-
Purvashadha	P20+	P24+	P28+	P4+	P8+	P12+	P16-
Uttarashadha(a)	P21+	P25-	P1+	P5+	P9-	P13+	P17-
Abhijith*	P22-	P26-	P2-	P6-	P10-	P14+	P18-
Sravana(b)	P23-	P27+	P3-	P7+	P11+	P15-	P19+
Dhanishta	P24+	P28+	P4+	P8+	P12+	P16-	P20+
Satabhisa	P25-	P1+	P5+	P9-	P13+	P17-	P21+
Purvabhadra	P26-	P2-	P6-	P10-	P14+	P18-	P22-
Uttarabhadra	P27+	P3-	P7+	P11+	P15-	P19+	P23-
Revati	P28+	P4+	P8+	P12+	P16-	P20+	P24+

(a) first 2 padas only, (b) last 2 padas only

*Abhijith is in between Uttarashada and Sravana. Last two Padas of Uttrashada and first two Padas of Sravana are considered to be Abhijith.

Phalas or meanings of the above codes are tabulated in the below.

Phalas of Weekday and Nakshatra combination				There are Other Thumba Rule Methods as well, described in Panchangams for travel related purposes. These are (a) "Dik Shoola" – directions to be avoided on certain weekdays and thithis, (b) "Yogini" – directions favourable on certain thithis (paksha wise), (c) "Vaara Shoola" – directions favourable on certain week days with pariharas for taking other directions.
Phala	Yoga	Artha (Meaning)	Simply	Vasthu Purushotthana Souramasa Date Ghati
P 1+	Ananda	Karyasiddhi	Siddha	Mesha 10 21-00
P 2-	Kaaladanda	Marana	Marana	Vrushabha 21 8-00
P 3-	Thumra	Ashubha	Marana	Mithuna - -
P 4+	Prajapathi	Soubaghya	Siddha	Karkataka 11 2-00
P 5+	Soumya	Soukhya	Siddha	Simha 6 29-00
P 6-	Thulanksha	Dhana Nasha	Marana	Kanya - -
P 7+	Dhwaja	Shubha	Siddha	Thula 11 2-00
P 8+	Srivatsa	Dhana Labha	Siddha	Vrushchika 8 10-00
P 9-	Vajra	Kaalaha	Marana	Dhanus - -
P 10-	Mudkara	Dhana Nasha	Marana	Makara 12 8-00
P 11+	Chathra	Raja Sanmanा	Siddha	Kumbha 22 8-00
P 12+	Mithra	Deha Pushti	Amrutha	Meena - -
P 13+	Manasa	Pushti	Amrutha	
P 14+	Padma	Dhana Prapthi	Siddha	
P 15-	Lambaka	Dhana Nashta	Marana	
P 16-	Uthpatha	Prana Nasha	Marana	
P 17-	Mruthyu	Marana	Marana	
P 18-	Kana	Karya Nasha	Marana	
P 19+	Siddhi	Karya Siddhi	Amrutha	
P 20+	Shubham	Shubha	Siddha	
P 21+	Amrutha	Labha	Amrutha	
P 22-	Musala	Dhana Nasha	Marana	
P 23-	Kada	Bhaya	Marana	
P 24+	Mathanga	Kula Vruddhi	Amrutha	
P 25-	Rakshasa	Yochane	Marana	
P 26-	Chara	Karya Nasha	Marana	
P 27+	Sthira	Karya Labha	Amrutha	
P 28+	Varthamana	Athishaya Labha	Siddha	

Time of Vasthu Purusha's awakening is given in the table above. The time of his being awake is 1 1/2 muhurthas = 3 ghati. Laying of foundation should be ideally performed during the time.

Simple Astrological Information – for benefiting from Panchangam

Alpa Dwadashi emphasises short duration of dwadashi - parane (having meals) to be finished before Dwadashi ends - also called **Sadhane**.

Anadhyayana indicates No new lessons are to be begun, especially Veda.

Anvashtaka is the day before Ashtaka and also the day after **Ashtaka**.

Ashtaka is the day of shraddha thithi Bahula Ashtami in the months of Bhadrapada, Margashira, Pushya, Magha and Phalguna.

Ayushkarma – Haircut in an auspicious time is said to increase the longevity; Haircut in other times is said to decrease the longevity of the person and his family members; hence the name Ayushkarma for the process. The auspicious times are combination of: Dwitheeya, Thrusheeya, Panchami, Dashami and Thrayodashi thithis; Soma, Budha and Guru varas; Ashwini, Mrugashira, Punarvasu, Pushya, Hastha, Chitta, Swathi, Jyeshta, Shravana, Shathabhisha, Dhanishta and Revathi nakshatras; Poorvahnas (well before noon) are the best. Brothers should not have it on the same day. So also Father and Son. Janma nakshatra is to be avoided. If for any unavoidable reason, a non auspicious time is used, the Dosha is said to be nullified by having it in an auspicious time the next time.

Current Day – First 5/8 parts of the Ratri mana are counted as Current day and rest as next day. For a notional 6 pm sunset and 6 am sun rise, upto 1-30 am is counted as Current day. However, for rajaswala nirnaya first 2/3 parts of the night time is counted as (upto 2-00 am) Current day.

Darsha Shraddha: Pithrukarya performed by all Shraddhakarthrus on Amavasya day is referred as Darsha Shraddha. (This is not annual ceremony).

Date Referrals: For general date referrals Chandramana dates [samvathsara, masa, paksha and thithi] are used . In Tamil Nadu Souramana masa and date is used for the purpose.

Birth days are celebrated in Tamil Nadu using Souramana masa and Nakshatra while Thulu speaking community uses Souramana masa and Thithi. In both these cases, there is a possibility of the Nakshatra or Thithi occurring twice during a Souramana masa. In such cases, the second occurrence of Nakshatra and the first occurrence of Thithi is used.

Grahana Karmanushtanas are Sachela snana, Deva pooja at the time of Sparsha kaala, Homa/Japa at Poorna grahana kaala, Dana at Moksha kaala, Shuddha snana after Moksha. On all Grahana days, Sanyasis, Shraddha Karthrus and Widows should not take Bhojana.

In case of Grasthodya and Grasthastha grahanas, the calculated times of Sparsha and Moksha should be used for Karmanushtanas. In case of Surya grahana, karmanushtana should begin from the Sparsha (as the period between Sparsha & Mid point (or climax) is greater than the period between the mid point & Moksha), while in case of Chandra Grahana, Karmanushtana is to begin from the mid point (as the above referred periods are equal).

Persons with Janana/Marana ashoucha and Rajaswala ashoucha are said to be pure for the purposes of the Karmanushtana during grahana.

Grahana Vedhakaala: In case of Surya Grahana, 4 yamas (30 ghatis or 12 hours) before the grahana is vedhakaala. In case of chandra grahana it is 3 yamas (22 ½ ghatis or 9 hours). Intake of food is taboo during vedha

kaala. Grahana kaalas and Vedha kaalas are not suitable for Shubha karyas.

Guru Pushya Yoga – Period when planet Guru is in the Pushya nakshatra position. [This is also interpreted as Guru vaara with Pushya nakshatra ruling during the nisheetha period.] - Ideal time for investments.

Karidina - Five in number - next day to Karkataka and Makara Sankramanas, Jyeshta & Aswini Shukla Prathamas and Phalguna Krishna Prathama - to be avoided for auspicious functions.

Masa Niyamaka - Masa's abhimani devatha is also referred as Masa Niyamaka, Masa Murthy, Masa Nama¹. Using this with the Masa's name like Chaitra - Vishnu Masa, Vaishakha - Madhusudhana Masa etc. is in practice. 1 - This is not the Masa Nama used in Naming of children.

Paksha Masa: Krishna paksha of Bhadrapada masa is referred as Paksha masa (**Mahalaya Paksha**). Navami during this paksha is reserved for departed mutthaides (called **Avidhava Navami**), Chathurdashi for those killed in wars/accidents (called **Ghatha chaturdashi**).

During this paksha, shraddha karthrus perform Shraddha for the departed souls of their lineage. A thithi in the paksha is chosen for the purpose irrespective of the masa and thithi of the departure of the immediate predecessor. [This is in addition to the annual shraddha.] This shraddha includes other departed relatives / friends. This shraddha is referred as **Paksha Shraddha**.

Parva Kaalas are important mile stones in Sun's movement. At **Grahana kaalas** and **Parva kaalas** Snana, Japa, Tarpana and Dana should be performed. Observing Vaidhruti and Vyatipata Parvakaalas are said to be equal to observing one crore Surya grahana prescriptions.

Parane - Meals after a fast. Normally refers to Dwadashi.

Punyadina - day for paying respects (**Aradhane**) to a departed soul by any interested person. The day on which the thithi ruling at sun rise happens to be the same as the thithi in which the soul departed is the presecribed day. In case of a thithi having puccha, the day of puccha is considered.

Pushyarka Yoga - Period when the Sun is in the Pushya nakshatra position. [This is also interpreted as Bhanu vaara with Pushya nakshatra ruling during the nisheetha period.] - Special worship of Gurus and Sri Raghavendra Swami by reciting sthothra 108 times is recommended.

Sankalpa describes the place, time, person and purpose (what is being performed). The time has to be described using the parameters; **Thithi, Vara, Nakshatra, Yoga and Karana**, as it showers blessings – knowledge of Thithi bestows Wealth, Vaara increases Longevity, Nakshatra erases sins, Yoga cures Diseases and Karana ensures Success in work. The short cut "Shubha nakshatra, Shubha yoga, Shubha karana" will deprive this.

Shannavathi - 96 days when Shraddha or atleast Tharpana has to be performed - 12 Amavasyas, 4 Ugadis, 14 Manvadis, 12 Sankramanas, 12 Vaidhruthi yoga, 12 Vyathipatha yoga, 15 Paksha masa days, 5 Ashtakas, 10 Anvashtakas.

Shraddha - generally refers to annual pithrukarya performed by the eligible descendants only. The day on which the shraddha thithi happens to be the same as the thithi in which the soul departed is the prescribed day.

All eligible persons have to perform shraddha for the departed souls on the shannavathi days.

Shubha Nakshatras: Dhruva (Best) – Rohini, Uttara, Uttarashada and Uttarabhadra; Laghu (Lighter) – Hastha, Ashwini, Pushya and Abhijit; Mrudu (Soft) – Mrugashira, Chitta, Anuradha and Revathi; Chara (Moving) – Swathi, Punarvasu, Shravana, Dhanishta and Shatabhisha; Madhyama (Neutral) – Makha, Moola and Vishaka.

Shubha Thithis: 2, 3, 5, 7, 10, 13 and 15 i.e., Dwitheeya, Thrutheeya, Panchami, Saptami, Dashami, Thrayodashi and Pournami.

Shubha Varas: Soma, Budha, Guru and Shukra.

Shubha Yogas: Preethi, Aayushman, Soubhagya, Shobhana, Sukarman, Dhruthi, Vruddhi, Dhruva, Harshana, Siddhi, Variyan, Shiva, Siddha, Sadhya, Shubha, Shukla, Brahma and Aindra.

Sopapada - Four in number - to be avoided for Upanayanas

Thithi ruling at sun rise of the day has to be used in the sankalpa of Snana, Sandhyavandana, Dana, Homa etc.

Dashas and Bhukthis

The Dasa system helps in studying the timing of events. The basis for the Dasa system is not clearly known, or can be scientifically established. Practical experience, has shown that the calculations are quite satisfactory and more or less the predictions under the system have come true.

Each nakshatra has a planet assigned as its lord (lord of the dasa) and has an assigned period of rule, known as dasha.

Table of Dashas

Nakshatra	Dasha	Dasha Period (Years)
Krittika, Uttara and Uttarashadha	Sun	6
Rohini, Hasta and Sravana	Moon	10
Mrigasira, Chitra and Dhanishta	Mars	7
Ardra, Swati and Satabhisha	Rahu	18
Punarvasu, Vishakha and Purvabhadra	Jupiter	16
Pushya, Anuradha and Uttarabhadra	Saturn	19
Aslesha, Jyeshta and Revathi	Mercury	17
Makha, Moola and Aswini	Kethu	7
Pubba, Poorvashadha and Bharani	Venus	20

The total of the different dasha Periods is 120 years which is considered to be the natural life period of a human being. The position of the Moon at birth, determines the ruling dasha period and the ruler (dasha lord). Next dasas succeed in the order given above. If, at the time of birth, the Moon is in the beginning of first degree of the nakshatra (constellation), the full period assigned to the dasha will run. If the Moon occupies some intermediate degrees, accordingly the period must be reduced.

Bhukthis are the sub periods of the dasha period. Each dasha has 9 sub periods corresponding to the 9 planets/dasha periods referred above. These sub periods are in the same ratio as that of dasha periods. Bhukthis follow the same order of succession as that of dasha. However, the first bhukthi lord in each dasha will be the same as dasha lord. For example, in the beginning of Jupiter dasha, the ruling bhukthi will be Jupiter, followed by Saturn, Mercury etc. Similarly, in the beginning of Saturn dasha, the ruling bhukthi will be of Saturn.

There are different systems of Dasha calculations. Vimsottari calculation is practiced more. After finding the Dasha, the sub-periods (Bhukti) in each of the particular Dasa must be determined.

Example: Calculation of Bhukthis in Surya Dasha

Surya Dasha period = 6 years

Bhukthi	Ratio of Bhukthi Duration	Multiplying each planets dasha period from that of Sun		Use the last digit of the result - Multiply it by 3 to get days of the period ¹	¹ From the remaining digits		
					Years	Months	Days ¹
Sun	6/120	6x6	=	36	6x3	0	3 18
Moon	10/120	10x6	=	60	0x3	0	6 0
Mars	7/120	7x6	=	42	2x3	0	4 6
Rahu	18/120	18x6	=	108	8x3	0	10 24
Guru	16/120	16x6	=	96	6x3	0	9 18
Saturn	19/120	19x6	=	114	4x3	0	11 12
Mercury	17/120	17x6	=	102	2x3	0	10 6
Kethu	7/120	7x6	=	42	2x3	0	4 6
Venus	20/120	20x6	=	120	0x3	1	0 0

In the example, for the Bhukthis of Surya Dasha, Surya Dasha period [6] has been used for multiplication. For Moon Dasha its period [10] etc has to be used. Further, in Moon dasha the first Bhukthi will be Moon Bhukthi

Disclaimer

All the above are given as information. The author disowns responsibility for the consequences of any person using it.

Acknowledgement

Author gratefully acknowledges the role of Panchanga Guru Shri R Padmanabhachar in guiding and sharing information.

Grateful Acknowledgement to:

Panchanga Guru: **Shri R Padmanabhan**, 24, Firewood Shell Street, Tiruvallikeni, Chennai 600 005, Phone: 91 44 2844 7110